

REMARKS

This is a Response to the Office Action mailed April 21, 2006. Claims 2-9, 11-13 have been amended. Claims 1, 10, and 14-17 have been canceled. Claims 18-22 have been added. No new matter has been added to the application. The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090. Claims 2-9, 11-13, and 18-22 are pending.

Rejections Under 35 U.S.C. § 102(b)

The Examiner rejected claims 1-8, 10, 11, and 14-17 as being anticipated by Furukawa et al. (U.S. Patent 6,345,026). Applicant respectfully traverses the rejection. Applicant has canceled claims 1, 10, and 14-17.

Claim 2 claims the unique feature of determining a delay time period $T3$ between a fall time of a data pulse corresponding to the first recording mark and a time at which the level of a pulse is switched from the recording power to the bottom power in the pulse train pattern used for forming the first recording mark. The delay time is determined according to the formula $T3(x1, y, z) > T3(x2, y, z)$, where $T3(x1, y, z)$ is the delay time period $T3$ in the case of forming the first recording mark having a length $x1$, the blank region having a length y after the formation of the first recording mark and the second recording mark having a length z and $T3(x2, y, z)$ is a delay time period $T3$ in the case of forming the first recording mark having a length $x2$, the blank region having a length y after the formation of the first recording mark and the second recording mark having a length z , where $x1$ is smaller than $x2$.

In Table 2 of Furukawa, a delaying time $d2$ is determined in accordance with the length of a recording mark to be formed, the length of a back space (a blank region to be formed immediately after formation of the recording mark) and the length of a back mark (a next recording mark formed subsequent to the formation of the recording mark). However, at no point does Furukawa disclose the feature of determining $d2$ according to the formula $T3(x1, y, z) > T3(x2, y, z)$. Table 2 of the disclosure of Furukawa does not indicate the values or even the

relative values of the delay times d2. Figure 2 also does not show delay times according to the formula above.

As Furukawa fails to disclose this advantageous method of determining the delay time, claim 2 is not anticipated by Furukawa. As independent claim 1 has been canceled, claim 2 has been amended to be an independent claim. Claims 4 and 6 have been amended to depend from claim 2 and are thus not anticipated by Furukawa. Claims 7 and 8 have been amended to depend from claim 6 and thus are not anticipated by Furukawa.

Claim 3 claims the unique feature of determining a delay time period T3 between a fall time of a data pulse corresponding to the first recording mark and a time at which the level of a pulse is switched from recording power to the bottom power in the pulse train pattern used for forming the first recording mark. The time delay is determined according to the formula

$$T3(x, y1, z) > T3(x, y2, z)$$

wherein $T3(x, y1, z)$ is a delay time period T3 in the case of forming the blank region having length $y1$ after the formation of the first recording mark having length x and the second recording mark having length z and $T3(x, y2, z)$ is a delay time period T3 in the case of forming the blank region having length $y2$ after the formation of the first recording mark having length x and the second recording mark having a length z , where $y1$ is smaller than $y2$.

As stated above, table 2 of Furukawa does not indicate the relative values of delay times n-z. At no point does Furukawa disclose or imply determining the time delay according to the formula above. As Furukawa does not disclose this unique feature of claim 3, claim 3 is not anticipated by Furukawa. Claim 3 has been amended to be in independent form.

Claim 5 claims the unique feature of determining a delay time period T3 between a fall time of a data pulse corresponding to the first recording mark and a time at which the level of a pulse is switched from recording power to the bottom power in the pulse train pattern used for forming the first recording mark. The time delay is determined according to the formula

$$T3(x, y, z1) > T3(x, y, z2)$$

wherein $T3(x, y, z1)$ is a delay time period T3 in the case of forming the blank region having length y after the formation of the first recording mark having length x and the second recording mark having length $z1$ and $T3(x, y, z2)$ is a delay time period T3 in the case of forming the blank

region having length y after the formation of the first recording mark having length x and the second recording mark having a length $z2$, where $z1$ is smaller than $z2$.

As stated above, table 2 of Furukawa does not indicate the relative values of delay times $n-z$. At no point does Furukawa disclose or imply determining the time delay according to this formula. As Furukawa does not disclose this unique feature of claim 5, claim 5 is not anticipated by Furukawa. Claim 5 has been amended to be in independent form.

Claim 11 has been amended to claim the unique feature of determining a delay time period $T1$ between a rise time of a data pulse corresponding to the first recording mark and a time at which the level of a pulse is switched the bottom power to the recording power in the pulse train pattern used for forming the first recording mark. The delay time is determined according to the formula

$$T1(a1, b) > T1(a2, b)$$

wherein $T1(a1, b)$ is a delay time period in the case of forming the first recording mark having a length b after formation of a blank region having a length $a1$ and $T1(a2, b)$ is a delay time period in the case of forming the first recording mark having a length b after formation of a blank region having a length $a2$ longer than $a1$.

At no point does Furukawa disclose or imply determining the time delay according to this formula. As Furukawa does not disclose this unique feature of claim 11, claim 11 is not anticipated by Furukawa. Claim 11 has been amended to be in independent form.

Claim 12 has been amended to claim the unique feature of determining a delay time period $T1$ between a rise time of a data pulse corresponding to the first recording mark and a time at which the level of a pulse is switched the bottom power to the recording power in the pulse train pattern used for forming the first recording mark. The delay time is determined according to the formula

$$T1(a, b1) < T1(a, b2)$$

wherein $T1(a, b1)$ is a delay time period in the case of forming the first recording mark having a length $b1$ after formation of a blank region having a length a and $T1(a, b2)$ is a delay time period in the case of forming the first recording mark having a length $b2$ longer than $b1$ after formation of a blank region having a length a .

At no point does Furukawa disclose or imply determining the time delay according to this formula. As Furukawa does not disclose this unique feature of claim 12, claim 11 is not anticipated by Furukawa. Claim 12 has been amended to be in independent form.

Applicant respectfully submits that claims 2-8, 11, and 12 are not anticipated by Furukawa.

The Examiner rejected claims 1, 10, 11, 14, 15, and 17 under 35 U.S.C. 102(b) as being anticipated by Shoji et al. (US 6,188,656). Applicant respectfully traverses the rejections. Claims 1, 10, 14, 15, and 17 have been canceled.

Claim 11 has been amended to claim the feature of determining a time period between a fall time of a data pulse corresponding to the recording mark and a time at which the level of a pulse is switched from recording power to the bottom power in accordance with the length of the recording mark, the length of a blank region to be formed immediately after formation of the recording mark, and the length of the next recording mark. Shoji does not disclose this feature. Shoji discloses determining a time at which the level of the pulse is switched from the bottom power to the recording power so as to be delayed as the length of a front blank region is shorter. Shoji does not determine a time period between a fall time of a data pulse and the time when the pulse is switched from the recording power to the bottom power based on the above criteria.

As Shoji does not disclose this unique feature, Shoji does not anticipate claim 11. Applicant respectfully submits that claim 11 is allowable.

The Examiner rejected claims 1, 10, 11, 14, and 16 under 35 U.S.C. 102(e) as being anticipated by Yokoi (U.S. 7,006,419). Applicant respectfully traverses the rejection. Claims 1, 10, 14, and 16 have been canceled.

Claim 11 has been amended to claim the unique feature of determining a delay time period T1 between a rise time of a data pulse corresponding to the first recording mark and a time at which the level of a pulse is switched the bottom power to the recording power in the pulse train pattern used for forming the first recording mark. The delay time is determined according to the formula

$$T1(a1, b) > T1(a2, b)$$

wherein $T1(a1, b)$ is a delay time period in the case of forming the first recording mark having a length b after formation of a blank region having a length $a1$ and $T1(a2, b)$ is a delay time period in the case of forming the first recording mark having a length b after formation of a blank region having a length $a2$ longer than $a1$.

At no point does Yokoi disclose or imply determining the time delay according to this formula. As Yokoi does not disclose this unique feature of claim 11, claim 11 is not anticipated by Yokoi. Claim 11 has been amended to be in independent form.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 12 and 13 under 35 U.S.C. 103(a) as being unpatentable over Furukawa in view of Fujiune et al. (U.S. Publication 2004/0037197). The Examiner also rejected claims 12 and 13 as being unpatentable over Shoji in view of Fujiune. The Examiner also rejected claims 12 and 13 as being unpatentable over Yokoi in view of Fujiune. Applicant respectfully traverses the rejection. Claim 13 has been canceled.

Claim 12 has been amended to claim the unique feature of determining a delay time period $T1$ between a rise time of a data pulse corresponding to the first recording mark and a time at which the level of a pulse is switched the bottom power to the recording power in the pulse train pattern used for forming the first recording mark. The delay time is determined according to the formula

$$T1(a, b1) < T1(a, b2)$$

wherein $T1(a, b1)$ is a delay time period in the case of forming the first recording mark having a length $b1$ after formation of a blank region having a length a and $T1(a, b2)$ is a delay time period in the case of forming the first recording mark having a length $b2$ longer than $b1$ after formation of a blank region having a length a .

At no point does the prior art disclose or imply determining the time delay according to this formula. The examiner states that in Figure 2c of Yokoi the arrow corresponding to $3T$ is shorter than the arrow corresponding to $6T$ and that Yokoi thus shows the above feature. However, examining Figure 2c of Yokio shows that the arrow corresponding to

3T is the same length as the arrow corresponding to 6T and that Yokio does not in fact show the above feature.

Thus no combination of the cited prior art shows all the features of claim 12. Applicant respectfully submits that claim 12 is allowable.

New Claims

In addition to the above, Applicants have submitted new claims 18-22 to obtain coverage of additional embodiments. No new subject matter has been added. Support for the new claims can be found generally in the written description.

New claim 18 claims the method of claim 3 wherein the first recording mark is the shortest recording mark.

New claim 19 claims the method of claim 5 wherein the first recording mark is the shortest recording mark.

New claim 20 claims the method of claim 9 wherein the first recording mark is the shortest recording mark.

New claim 21 claims the method of claim 11 wherein the first recording mark is the shortest recording mark.

New claim 22 claims the method of claim 12 wherein the first recording mark is the shortest recording mark.

As new claims 18-22 depend from allowable claims and contain no new subject matter, Applicant respectfully submits that new claims are allowable.

Conclusion

In light of the above amendments and remarks, Applicants respectfully submit that all pending claims are allowable. Therefore, Applicants respectfully request that the Examiner reconsider this application and allow all pending claims. Examiner Jones is encouraged to contact the undersigned by telephone to discuss the above distinctions between the claims and the applied references, if desired, or informalities in the claims, if any.

Applicants submit herewith a Certified English Translation of the priority document from the original Japanese filing date of September 9, 2002. All of the current claims

are entitled to a filing date of September 9, 2002. Accordingly, Yoko; 7,006,419, Fujine et al. 2004/0037197 and Toda et al. 2003/0067850 do not qualify as prior art. Applicants believe that the present claims distinguish over and are thus patentable in light of there reference or combination thereof, however, since they do not qualify as prior art, applicants are removing them, so further comment is not necessary.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

SEED Intellectual Property Law Group PLLC

A handwritten signature in black ink, appearing to read "David V. Carlson", is written over a horizontal line.

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Enclosure:

Certified English Translation JP 2002-262711

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